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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/445,112	02/17/2000	HEINRICH JURGENSEN	P99.2405	9473

7590 12/01/2004

Schiff Hardin & Waite  
Patent Department  
7100 Sears Tower  
Chicago, IL 60606-6473

EXAMINER
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FLORES RUIZ, DELMA R

ART UNIT	PAPER NUMBER
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2828

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/445,112

Applicant(s)

JURGENSEN, HEINRICH

Examiner

Delma R. Flores Ruiz

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 29-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 29-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 29 – 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaw et al (5,048,026) in view of Mori (4,761,047).

***Regarding claim 29,*** Shaw discloses a method for reducing pump light in a region of a laser light exit of a laser resonator fiber, comprising the steps of; providing said laser resonator fiber (see Fig. 1, Character 12) as comprising a fiber core (said limitation only recites facts and features that are well known and expected, the same features that essentially result from the use or application of a fiber core, and therefore said limitations are said to be inherently disclosed in the teachings of Shaw) surrounded by a pump fiber comprising an inner fiber portion which in turn is surrounded by a sheath (see Fig. 1, Character 14) ; at a light entrance end of said pump fiber (see Fig. 1, Character 24), inputting pump light so that laser light arises in said fiber core and exits

from said fiber core at said laser light exit (see Fig. 1, Character S<sub>0</sub>) and at least section of said pump fiber preceding said laser light exit, allowing substantial remaining pump light to escape from the pump fiber to reduce pump light from being emitted with the laser light (see Fig. 1, Abstract, Column 1, Lines 20 – 25, Column 2, Lines 3 – 21, 51 – 60, Column 3, Lines 15 – 32, Column 4, Lines 23 – 68, Column 5, Lines 1, 13 – 15, 38 – 64, Column 6, Lines 9 – 68 and Column 7, Lines 62 – 66).

Shaw discloses the claimed invention except for laser light exit by removing at least a portion of the sheath at said last section. It would have been obvious at the time of applicant's invention, to combine Mori of teaching a laser light exit by removing at least a portion of the sheath at said last section with method for reducing pump light in a region of a laser light exit of a laser resonator fiber because is formed on the core portion of the optical fiber after removing a part of the clad layer portion thereof.

Otherwise, a light rays dispersing body is fittedly mounted on the depression of the optical fiber, or a part of the clad layer portion thereof is removed and a transparent body for causing the light rays to pass therethrough is bonded to the removed clad layer portion. As mentioned above, various optional desired means for emitting the light rays can be provided or formed on the surface of the optical fibers (Column 2, Lines 22 – 33).

**Regarding claims 30 – 31**, Shaw discloses at least partially stripping said laser section of said sheath and the sheath is entirely stripped away at said last section (see

Fig. 1, Abstract, Column 1, Lines 20 – 25, Column 2, Lines 3 – 21, 51 – 60, Column 3, Lines 15 – 32, Column 4, Lines 23 – 68, Column 5, Lines 1, 13 – 15, 38 – 64, Column 6, Lines 9 – 68).

***Regarding claim 32 – 34***, Shaw discloses a during manufacture of said last section only at least a part of said sheath is provided thereon and during manufacture of said last section no sheath is provided thereon at all (see Fig. 1, Abstract, Column 1, Lines 20 – 25, Column 2, Lines 3 – 21, 51 – 60, Column 3, Lines 15 – 32, Column 4, Lines 23 – 68, Column 5, Lines 1, 13 – 15, 38 – 64, Column 6, Lines 9 – 68).

***Regarding claims 34, 35, and 38***, Shaw discloses a providing said sheath such that a diameter thereof tapers in wedge-like fashion toward said light exit in a region of said last section and removing at least the portion of said sheath at said section by etching (see Fig. 1, Abstract, Column 1, Lines 20 – 25, Column 2, Lines 3 – 21, 51 – 60, Column 3, Lines 15 – 32, Column 4, Lines 23 – 68, Column 5, Lines 1, 13 – 15, 38 – 64, Column 6, Lines 9 – 68).

***Regarding claim 36***, Shaw discloses a fiber laser, comprising; a pump light (see Fig. 1, Character 24); a laser fiber core (said limitation only recites facts and features that are well known and expected, the same features that essentially result from the use

or application of a laser fiber core, and therefore said limitations are said to be inherently disclosed in the teachings of Shaw) as a laser resonator surrounded by a pump fiber comprising; an inner fiber portion which in turn is surrounded by an outer sheath (see Fig. 1, Character 14), said pump light being received in said pump fiber at a light entrance end thereof, and said fiber core having a laser light exit at an end thereof opposite said light entrance end of said pump fiber where a laser light arising in said fiber core exits and at a last section of the pump fiber leading to said light exit, substantial remaining pump light escapes from the pump fiber so that pump light emitted with laser light at said laser light exit is reduced, (see Fig. 1, Abstract, Column 1, Lines 20 – 25, Column 2, Lines 3 – 21, 51 – 60, Column 3, Lines 15 – 32, Column 4, Lines 23 – 68, Column 5, Lines 1, 13 – 15, 38 – 64, Column 6, Lines 9 – 68 and Column 7, Lines 62 – 66).

Shaw discloses the claimed invention except for laser light exit by removing at least a portion of the sheath at said last section. It would have been obvious at the time of applicant's invention, to combine Mori of teaching a laser light exit by removing at least a portion of the sheath at said last section with method for reducing pump light in a region of a laser light exit of a laser resonator fiber because is formed on the core portion of the optical fiber after removing a part of the clad layer portion thereof. Otherwise, a light rays dispersing body is fittedly mounted on the depression of the optical fiber, or a part of the clad layer portion thereof is removed and a transparent body for causing the light rays to pass therethrough is bonded to the removed clad layer

portion. As mentioned above, various optional desired means for emitting the light rays can be provided or formed on the surface of the optical fibers (Column 2, Lines 22 – 33).

***Regarding claims 37 and 39***, Shaw discloses a sheath at said last section is entirely removed, and last section said sheath is removed completely and an outer portion of said inner fiber portion is roughened where said sheath id completely removed leading to said laser light exit, (see Fig. 1, Abstract, Column 1, Lines 20 – 25, Column 2, Lines 3 – 21, 51 – 60, Column 3, Lines 15 – 32, Column 4, Lines 23 – 68, Column 5, Lines 1, 13 – 15, 38 – 64, Column 6, Lines 9 – 68).

### ***Response to Arguments***


Applicant's arguments filed 11/18/2004 have been fully considered but they are not persuasive. Applicant's arguments with respect to claims 29 – 39 have been considered but are moot in view of the new ground(s) of rejection.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Delma R. Flores Ruiz whose telephone number is (571) 272-1940. The examiner can normally be reached on M - F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Min Sun Harvey can be reached on (571) -272-1835. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Delma R. Flores Ruiz  
Examiner  
Art Unit 2828

  
Min Sun Harvey  
Supervisor Patent Examiner  
Art Unit 2828

DRFR/MH  
November 26, 2004